

U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2004-165-EA

CASEFILE/PROJECT NUMBER:

PROJECT NAME: Greasewood WFU Short Term Impact Mitigation Plan

LEGAL DESCRIPTION: T1N R96W Sec. 27,28,33,34
T1S R96W Sec. 3,4,5,8,9,10,16,17,18,20,21,22

APPLICANT: BLM, White River Field Office

ISSUES AND CONCERNS:

1) Vegetation: The fire exhibited extreme fire behavior in Reagan Gulch, Little Reagan Gulch and the upper two-thirds of Thompson Gulch. Soil moisture and live fuel moistures were low in these drainages and consequently 70-90% of the perennial grasses and forbs experienced mortality. There were established populations of cheatgrass in all of these drainages. Without seeding due to the amount of desirable perennial grass and forb mortality, cheatgrass will out-compete native vegetation and result in degraded rangeland health. There are known infestations of Leafy Spurge, Houndstongue, Mullein, Spotted and Russian Knapweed, and Black Henbane which will be released from competition and expand in size due to the removal and slow re-establishment of desirable vegetation.

2) Livestock: None; much of the area was not utilized by livestock due to a dense canopy cover of PJ that limited forage production and utilization.

3) Wildlife: None; while a significant amount of thermal cover was lost for big game, once desirable vegetation establishes there will be significantly more forage available for grazing ungulates. Nesting habitat for woodland migratory birds and raptors was lost as well.

4) T&E and Sensitive Species: No T&E wildlife species habitat was burned from this fire. Two sensitive plant species (Dudley Bluffs Bladderpod and the Piceance Basin Bladderpod) are found within the perimeter of the fire. Both species occur on steep barren Green River Shale slopes that do not have enough fuel to support fire and were not directly impacted by the fire; however some post fire increase in erosion is expected to impact these species in the absence of some short term impact mitigation.

5) Cultural Resources: Cultural surveys will need to take place prior to installing any check dams.

6) Watershed: All watersheds associated with this fire are not perennial, with the exception of Dry Fork of Piceance Creek which had approximately 0.75 miles of fire in the middle of the watershed burned, and therefore the fire will not result in long term degraded water quality. Short term higher sediment yields and accelerated erosion can be expected until vegetation reestablishes on the uplands of each watershed. Seeding the burned area will mitigate and decrease the duration of impacts to affected watersheds resulting from this fire. Initial watershed stabilization efforts were implemented by contouring fallen trees, utilizing incident fire personnel, in Tom Stith Draw, Beavers Draw, and the head waters of Little Reigan and Reigan Gulches.

7) Invasive Species: Reigan Gulch, Little Reigan Gulch, and a portion of Thompson Gulch were the most severely burned and there was established cheatgrass in all three watersheds. Due to low soil moisture 70-90% of the established perennial grass and forbs were killed. Without seeding much of the uplands within these watersheds can be expected to re-establish in a monoculture of cheatgrass. The sagebrush bottoms in Reigan Gulch, Little Reigan Gulch, Thompson Gulch, Greasewood Gulch, and Little Coral Gulch are at greatest risk of cheatgrass invasion. From past experiences within the resource area these bottoms will convert to a monoculture of cheatgrass without seeding.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: The fire was managed as Wildland Fire Use for resource benefit in accordance with the White River Fire Management Plan and White River Resource Land Use Plan. The fire burned a portion of the resource area's heaviest Ips Beetle infestation and consumed heavy dead and downed pinion-juniper fuel loading estimated at approximately 10 tons/acre. The fire also converted numerous PJ encroached sagebrush parks back to open meadows. The sagebrush parks that were burned will be enhanced due to the level of PJ encroachment prior to the fire, the fire provided a net benefit to these parks by removing the encroached PJ. On a landscape level fire was reintroduced to an area where at least one fire return interval was missed and converted 7,800 acres from a fire regime and condition class III to condition class I and achieved a more mosaic mix of seral age classes within the occurring vegetation strata present within and around the fire on a landscape level.

Proposed Action: BLM will conduct impact mitigation treatments as described below.

General Description of Treatments

Aerial Seeding Seed will be broadcast utilizing aircraft at a rate of 12.5 lbs/acre on approximately 2,921 acres in Reigan Gulch, Little Reigan Gulch and the upper two thirds of Thompson Gulch. (See Fire Impact Mitigation Map)

Drill Seeding Seed will be applied at a rate of 7.5 lbs/acre utilizing a rangeland drill pulled with a dozer. This treatment will take place on 146 acres of flat draw bottoms in Greasewood Gulch,

Reigan Gulch, Little Reigan Gulch, and Thompson Gulch. This treatment is more effective in the dry site channery loam soils found in these draw bottoms than broadcast seeding. (See Fire Impact Mitigation Map)

Broadcast Seeding/ATV Harrow Seed will be applied at a rate of 7.5 lbs/acre by broadcast seeding using an ATV mounted spreader and harrowed in utilizing a six foot harrow pulled behind an ATV. This treatment will take place on 17 acres of flat draw bottoms in Little Coral Gulch. (See Fire Impact Mitigation Map)

Check Dams/Waterbars Two small check dams would be installed at the head of Reigan Gulch with two more installed in small side drainages of Reigan Gulch. Three more small check dams would be built in short drainages between Reigan Gulch and Greasewood Gulch See Fire Impact Mitigation Map for detailed locations for the proposed dams. All dams would be built with a small dozer. For all locations no new road construction would take place the dozer would be walked into the locations. Also, 0.8 miles of unimproved roads would need to have water bars placed in them. See Fire Impact Mitigation Map for detailed locations.

Noxious Weed Detection and Control A four person BLM weed crew will treat known infestations of Leafy Spurge, Houndstongue, Mullein, Spotted and Russian Knapweed, and Black Henbane utilizing methods and materials approved by BLM. The crew will also inventory the burn area for new infestations and treat those accordingly.

Purpose of Treatments

Aerial Seeding The purpose of aerial seeding is to establish desirable perennial grasses and forbs on upland sites which will out-compete the invasive exotic cheatgrass and will help to provide greater soil stabilization and general watershed stabilization. Since there are 2,921 acres that experienced extreme fire behavior and the most mortality of established grasses and forbs, field office personnel determined that aerial seeding would be the most cost effective and efficient method of applying seed on these acres. This portion of the treatment will be completed by private contract in October/November of 2004, so that the seed would be on the ground prior to prolonged period of winter snow cover. The seed would be ready to germinate when moisture became available and soil temperatures are conducive to germination.

Drill Seeding The purpose of drill seeding is to apply seed to the channery loam soil type found in the gulch bottoms within the perimeter of this fire. The rangeland drill can apply seed below the soil surface at the proper seeding rate which will ensure greater germination rates. The gulch bottoms are very dry sites where greater germination success is essential to establish desirable grasses and forbs which will out-compete cheatgrass and other noxious weeds. This portion of the treatment will be completed by private contract using a BLM provided rangeland drill in October/November of 2004, so that the seed would be in the ground prior to prolonged period of winter snow cover. The seed would be ready to germinate when moisture became available and soil temperatures are conducive to germination.

Broadcast Seeding/ATV Harrow The area to be broadcast seeded and harrowed using ATVs is not easily accessed with a rangeland drill and bulldozer. Also, the area is only 17 acres of dry

site channery loam bottom which will be easier to access and more cost effective using this method than using a rangeland drill. This portion of the treatment will be completed by WRFO fire crew members in October/November of 2004, so that the seed would be in the ground prior to prolonged period of winter snow cover. The seed would be ready to germinate when moisture became available and soil temperatures are conducive to germination.

Check Dams/Waterbars Check dams and waterbars will be utilized to help slow water flow and decrease erosion rates in short drainages or side drainages that now have no vegetation on the uplands. The drainages selected (see map) either flow out at or near structures or county roads which could result in property damage or decreased productivity. This portion would be completed as soon as possible using a private contractor to complete the work.

Seed Name	Drill Seeding	Aerial Seeding	Seedling Planting	Total Pounds	Cost per lb	Total Costs
Indian Rice Grass (Rimrock)	1lb/acre	2lb/acre		6,005	3.69	22,158.45
Thickspike Wheatgrass (Critana)	2lb/acre	3lb/acre		9,089	2.15	19,541.35
Western Wheatgrass (Rosanaa)	3lb/acre	2lb/acre		6,331	3.39	21,462.09
Beardless Bluebunch Wheat (Witmar)	1lb/acre	3lb/acre		8,926	3.39	30,259.14
Sandberg Poa		1lb/acre		2,921	3.05	8909.05
Cicer Milkvetch	0.5lb/acre	1lb/acre		3,003	0	
Blue Phlax	0.25lb/acre	0.5lb/acre		1501	3.60	5,404.50
TOTALS	7.75lb/acre	12.5lb/acre		37,776	19.27	107,734.58

Noxious Weed Detection and Control Noxious weed control will be essential to maintain and improve rangeland health, as well as check/eradicate infestations prior to establishment of viable perennial vegetation. Due to the competitive advantage that many noxious weeds have, these species will displace and prevent establishment of desirable vegetation.

No Action Alternative: The no-action alternative is not a viable alternative; it is inconsistent with the general vegetation management objective of the White River ROD/RMP, which is to, “maintain healthy, diverse and sustainable rangeland and woodland plant communities.” It will not be considered further.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD: The alternative of more extensive rehabilitation is neither necessary nor cost effective. The remaining acreage within the Greasewood burn had a suitable cover of the fire tolerant perennial vegetation which did not experience extreme fire behavior and therefore, would not need to be seeded.

NEED FOR THE ACTION: The Greasewood fire was managed for resource benefit and those objectives were achieved however, the threat of noxious and invasive weeds remains a priority. Due to the extreme fire behavior exhibited in Reigan Gulch, Little Reigan Gulch and the upper two-thirds of Thompson Gulch 70-90% of the perennial grasses and forbs experienced mortality.

Seeding will allow perennial species to compete with cheatgrass and result in a more rapid stabilization of the effected watersheds. Soil stabilization measures will help to mitigate potential erosion events that could threaten human developments and rangeland health. Noxious weed eradication will help prevent the establishment of new and expansion of existing weeds species until desirable vegetation can adequately compete and repel noxious weed infestation. Cumulatively, these treatments will more rapidly help to set the area affected by this fire on a trajectory towards becoming a healthy, resilient rangeland capable of supporting multiple resources.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-55. The objective of re-vegetation and restoration as proposed here is integrally related to two vegetation management goals identified in the ROD/RMP:

Decision Language:

1. Manage noxious and problem weeds so that they cause no further negative environmental, aesthetic, or economic impact. In relation to this goal, failure to revegetate the Greasewood fire may unnecessarily predispose this area to a future of cheatgrass dominance and the environmental degradation that are a consequence of it.

2. Native plant species will be encouraged for reseeding disturbed areas that are not threatened by establishment of exotic plant species. Naturalized plant species will be allowed for reseeding “at risk” and unhealthy rangelands. The Greasewood fire rehabilitation seed mixture will utilize native and non-native species in the seed mixture. The Greasewood burned area lands are considered “at risk” due to the presence of cheatgrass and other noxious weed species

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: Air quality in the project area is not currently being monitored and is considered to be within state and federal air quality standards.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

CULTURAL RESOURCES

Affected Environment: Two small check dams would be installed at the head of Reigan Gulch; two more check dams would be installed in small side drainages of Reigan Gulch. Three more small check dams would be built in short drainages between Reigan Gulch and Greasewood Gulch. See Fire Impact Mitigation Map for detailed locations for the proposed dams. All dams would be built with a small dozer. For all locations no new road construction would take place the dozer would be walked into the locations. Also, 0.8 miles of unimproved roads would need to have water bars placed in them. A 100 per cent pedestrian survey was conducted on July 19 of these locations with 100 per cent visibility. No cultural resources were identified.

Environmental Consequences of the Proposed Action: Check dams and waterbars will be utilized to help slow water flow and decrease erosion rates in short drainages or side drainages that now have no vegetation on the uplands. The drainages selected (see map) either flow out at or near structures or county roads which could result in property damage or decreased productivity. No cultural resources were identified therefore there are no consequences resulting from the creation of check dams and waterbars.

Environmental Consequences of the No Action Alternative: Since no cultural resources were identified there are no consequences.

Mitigation: None

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Several species of noxious weeds have been found in the vicinity of the wildfire. These include cheatgrass, Leafy Spurge, Houndstongue, Mullein, Spotted and Russian Knapweed, and Black Henbane. All of these weeds have the potential to establish and

damage the productivity of the site. Proper reclamation would provide competition for the site which would decrease the opportunity for noxious weeds to establish and spread.

Environmental Consequences of the Proposed Action: Re-vegetation of the majority of the uplands burned area, as proposed, will largely stabilize them and preempt their invasion by cheatgrass and other noxious weeds.

Environmental Consequences of the No Action Alternative: Failure to aggressively re-vegetate the Greasewood fire as proposed, could lead to cheatgrass dominance of the uplands of the burn, predisposition to fire in the future and resultant environmental degradation. All of the noxious weeds described in the affected environment are adapted to the site and have the potential to establish and dominate the site. Once established these weeds have the ability to spread to the adjacent plant communities, decreasing productivity of these lands over the long term. If noxious weeds were to establish, a control effort would be required which would include an herbicide treatment and seeding. Cost of herbicidal control and follow-up reclamation would far exceed the cost of this rehabilitation proposal.

Mitigation: None

MIGRATORY BIRDS

Affected Environment: In the first post-burn season, nesting substrate for migratory birds will be very limited and confined to standing and downed snags (e.g., hairy woodpecker, mountain bluebird) and relatively sparse herbaceous ground cover (e.g., lark and vesper sparrow, western meadowlark). Over the course of project work, there is likely to be no birds inhabiting the burn identified as having higher conservation interest by the Rocky Mountain Bird Observatory, Partners in Flight program. A number of high interest migratory birds that once inhabited these extensive pinyon-juniper communities (e.g., black-throated gray warbler, gray flycatcher) will not begin to colonize these sites for many decades. Shrubland species with high conservation interest (i.e., Brewer's sparrow and green-tailed towhee) will begin to recolonize these burned lands within 10-15 years as deciduous shrubs and sagebrush redevelop sufficient canopies.

Environmental Consequences of the Proposed Action: All seeding operations and construction of sediment control structures would take place between August and December 2004—a timeframe that is asynchronous with the migratory bird breeding season. The proposed action would have no conceivable influence on migratory bird breeding efforts.

Environmental Consequences of the No Action Alternative: There would be no actions authorized that could potentially disrupt migratory bird breeding activities.

Mitigation: None.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: There were no threatened or endangered animals that inhabited or derived important benefit from this area prior to the burn. Mature pinyon-juniper woodlands off the north side of Magnolia have potential to support nesting northern goshawk, a BLM sensitive species. Based on the area burned and the rarity of this species in the pinyon-juniper type, it is unlikely that more than 1 nesting territory could have been affected.

Environmental Consequences of the Proposed Action: Rehabilitation activities would have no affect on any threatened, endangered, or BLM-sensitive animals or associated habitats. Because suitable nest substrate for northern goshawk will be unavailable for 200 years or more, rehabilitation activity within the burn's interior would have no conceivable influence on breeding activity or habitat potentially occupied by goshawk in the near term. Rehabilitation measures would, by helping to hold soils in place and deterring the establishment of weedy exotics and gullying events, maintain site productivity and the successional processes that are necessary for the redevelopment of well-structured woodland habitats.

Environmental Consequences of the No Action Alternative: Failure to take remedial actions that promote soil stability and reduce the risk of weedy annual establishment may not only degrade short term redevelopment of perennial grasses and forbs as ground cover, but prolong or disrupt long-term successional processes--ultimately reducing the availability of suitable woodland cover for northern goshawk.

Mitigation: None.

Finding on the Public Land Health Standard for Threatened & Endangered species: There are no threatened and endangered animals or associated habitats potentially influenced by the proposed action, and the proposed and no-action alternatives would have no influence on the status of land health standards in off-site habitats. The area involved in this wildfire previously met the standards for BLM sensitive animals (i.e., goshawk) and the proposed action is consistent with continued achievement of the standard. As described in the no-action alternative, there is some risk in failing to meet the standard in the long term by failing to apply remedial rehabilitation measures.

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES (includes a finding on Standard 4)

Affected Environment: Two sensitive plant species (Dudley Bluffs Bladderpod and the Piceance Basin Bladderpod) have potential habitat within the perimeter of the fire.

Environmental Consequences of the Proposed Action: Both species occur on steep barren Green River Shale slopes that do not have enough fuel to support fire and were not directly impacted by the fire; however some post fire increase in erosion may impact these species in the absence of some short term impact mitigation.

Environmental Consequences of the No Action Alternative: Increased erosion rates and expanding cheatgrass infestation will negatively impact Dudley Bluffs Bladderpod and the Piceance Basin Bladderpod habitat.

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: Implementation of the proposed action will ensure that the two BLM sensitive species will not be negatively impacted therefore the land health standard should be met for these two species.

WASTES, HAZARDOUS OR SOLID

Affected Environment: There are no hazardous or solid waste issues associated with the proposed action.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. All actions are within the White River watershed.

The State has classified this segment as a "Use Protected" reach. Its designated beneficial uses are: Warm Aquatic Life 2, Recreation 2, and Agriculture. The antidegradation review requirements in the Antidegradation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. For this reach, minimum standards for three parameters have been listed. These parameters are: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 2000/100 ml, and 630/100 ml E. coli. This segment retained its Recreation Class 2 designation after sufficient evidence was received that a Recreation Class 1a use was unattainable.

Environmental Consequences of the Proposed Action: With the state set water quality criteria, any improvement to watershed conditions (i.e., reseeding to improve vegetation cover) would be beneficial to the watershed by helping to maintain the necessary water quality the state has established.

Environmental Consequences of the No Action Alternative: The watershed would experience degradation from increased sediment loads to the White River if action were not taken to stabilize the watershed.

Mitigation: None

Finding on the Public Land Health Standard for water quality: Currently the upland watershed meets the land health standard and would continue to do so with the implementation of the proposed action.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: Riparian systems associated with both running and standing water function properly and have the ability to recover from major disturbance.

Environmental Consequences of the Proposed Action: There are no riparian areas that were significantly affected within the burn area. Reigan Gulch, Little Reigan Gulch and Thompson Gulch drainages are tributaries of the East Fork of Piceance Creek. Any action which stabilizes/benefits the watershed would have a positive impact on the East Fork of Piceance Creek riparian area.

Environmental Consequences of the No Action Alternative: Due to the increased potential for accelerated erosion and noxious weed establishment, this alternative could result in degradation of the riparian resources that occur in the East Fork of Piceance Creek riparian area.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: Implementing the proposed action will result in the long term achievement of land health standards for riparian systems that were or have the potential to be affected by the Greasewood Fire.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No ACECs flood plains, prime and unique farmlands, Wilderness or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: Upland soils exhibit infiltration and permeability rates that are appropriate for soil type, climate, land form, and geologic processes. Soils in the burned area are predominately shallow to moderately deep loams and sandy loams which are generally well drained to excessively drained. All these soils have an inherently low water holding capacity and would be considered droughty. The water erosion hazard for these soils is moderate to high. Soils on the uplands are primarily in the Castner Channery Loam, Rentsac Channery Loam, Barcus Channery Loam, Veatch Channery Loam, and Redcreek-Rentsac Channery Colplex map units. Soils in the drainages are in the Piceance and Glendive fine sandy loam map units.

Environmental Consequences of the Proposed Action: The fire effects on soils in Reigan Gulch, Little Reigan Gulch and the upper two-thirds of Thompson Gulch are characterized as severe due to the depth and intensity of soil heating as well as vegetation removal which has exposed the soil to wind and water erosion. The burn occurred while soil and live fuel moisture was moderate to low, combined with heavy fuel loading, which resulted in high surface temperatures and extended burning duration. As a result, soil heating was severe enough to cause significant changes in physical properties of the soil, mortality of perennial grasses and forbs, and mortality of the seed bed. It is anticipated that soil erosion will increase for one to three growing seasons post burn due to increased soil surface exposure. The proposed action will establish desirable perennial vegetation cover, which should increase above pre-burn levels resulting in increased soil stability, water infiltration, and reduced soil erosion. The proposed action will more rapidly stabilize upland soils than if left to reclaim naturally.

Environmental Consequences of the No Action Alternative: Failure to implement the proposed action will result in long term higher sediment yields and accelerated erosion, which will be expected until vegetation reestablishes on the uplands of each watershed. Not seeding the burned area will increase the duration and level of impacts to affected watersheds resulting from this fire.

Mitigation: None, provided the proposed action is implemented as described.

Finding on the Public Land Health Standard for upland soils: Soils in the project area currently meet the Standard and would be expected to meet the standard in the future if the proposed action is implemented. Cheatgrass, an alien invader is well adapted to coarse textured soils such as occur in the Greasewood burn and is able to out compete most perennial grasses due to its rapid rate of root elongation, whereby it exhausts soil moisture in the profile in advance of perennial grass seedlings. By prompt re-vegetation with adapted perennial species we can preempt the invasion of cheatgrass on the burn site. The window of opportunity is typically within the first year after burning.

VEGETATION (includes a finding on Standard 3)

Affected Environment: Healthy, productive plant and animal communities of native and other desirable species are maintained at viable population levels commensurate with the species

and habitats potential. Plants and animals at both the community and population level are productive, resilient, diverse, vigorous and able to reproduce and sustain natural fluctuations and ecological processes.

Environmental Consequences of the Proposed Action: Plant communities in the burned area met the standard prior to the burn. The fire principally impacted two vegetation communities: pinyon -juniper woodlands on the uplands and basin big sagebrush in the Reigan Gulch, Little Reigan Gulch, Greasewood Gulch, and Thompson Gulch drainages. The general character of the pinyon-juniper woodlands prior to burning could be best characterized as a dense stand with a mix of older trees and sub-mature regeneration with limited herbaceous and browse production. Based on stand structure and composition, it is likely that much of this community type had not burned within the last 200 to 300 years.

Cheatgrass is present as a trace component in plant communities within/adjacent to the burn site. Failure to aggressively re-vegetate the Greasewood burn area as proposed could lead to cheatgrass dominance of the uplands of the burn, predisposition to fire in the future and resultant environmental degradation. Mountain mahogany and Utah serviceberry are present on site and are expected to resprout when soil moisture conditions become favorable. Re-vegetation of the majority of the uplands burned area as proposed will largely stabilize them and preempt their invasion by cheatgrass, enabling us to meet the Standard in the future. The drainages do not have sufficient desirable perennial species to naturally re-vegetate on their own. Cheatgrass can be characterized as a dominant species in Greasewood Gulch, Thompson Gulch, Reigan and Little Reigan Gulches. Without seeding with desirable perennial vegetation these dry bottoms can be expected to re-vegetate to cheatgrass monoculture with very low vegetative diversity and predispose these sites to more frequent fire and further environmental degradation.

Environmental Consequences of the No Action Alternative: Failure to aggressively re-vegetate the Greasewood burn area as proposed could lead to cheatgrass dominance of the uplands and drainage bottoms of the burn, predisposition to fire in the future and resultant environmental degradation.

Mitigation: At least two permanent Daubenmire canopy coverage transects will be established to monitor post burn vegetation response.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial): Plant communities in the burned area met the standard prior to the burn. Implementing the proposed action will set the burned area on a trajectory towards meeting the standards for desirable, health, productive plant communities in the future.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: Proposed reclamation activities would be encompassed by the Dry Fork of Piceance watershed. This drainage is intermittent in the vicinity of the burn and, when flowing, supports only the most rudimentary invertebrate-based aquatic community. Downstream reaches are perennial and support sufficiently extensive in-channel wetlands to

support aquatic vertebrates such as muskrat, beaver, and a stocked trout fishery.

Environmental Consequences of the Proposed Action: Supplemental seeding is intended to promote a strong perennial ground cover response that, by more effectively holding or capturing soils exposed by the burn, would contribute to the reduction of sediment contributed to downstream aquatic systems. Enhancing herbaceous plant density and cover through seeding would have a high likelihood of overcoming the destabilizing influence of the burn and aid in maintaining ongoing channel rejuvenation processes. Although the effects may be relatively minor in the context of the watershed, cumulative stabilization of upstream channels and contributing uplands would reduce the potential for channel instability caused by heavy short term and chronic long-term sediment imbalances in downstream reaches of Dry Fork.

Environmental Consequences of the No Action Alternative: Potential for channel instability caused by heavy short term and chronic long-term sediment imbalances in downstream reaches of Dry Fork would persist.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): The vast majority of downstream channel supporting aquatic life is administered by the Colorado Division of Wildlife; these reaches would be regarded as being in properly functioning condition or functioning at-risk (these segments are influenced by irrigation practices). The proposed action would contribute to meeting the overall land health standards by reducing the risk of excessive sediment discharge into the Dry Fork and, in doing so, helping to prevent unnecessary episodes of excessive deposition, channel widening, and subsequent deterioration of aquatic habitat conditions.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The Greasewood fire primarily involved variable-aged pinyon-juniper woodlands with well developed deciduous shrub understories. This area supports important concentrations of big game (especially deer) and is used principally from September through May. Drastic reduction of cover and forage supplies will sharply limit the utility of the burned acreage for wintering deer and elk during the earliest stages of vegetation succession. Big game will use topographic relief as a means of effectively exploiting developing herbaceous growth during the first spring months.

These woodlands and interspersed basin big sagebrush valleys (Dry Fork and Greasewood) and mountain shrub slopes supported a diverse assemblage of breeding nongame birds and mammals. In the first years post-burn, remaining nest substrate for birds will be limited to standing snags (e.g., hairy woodpecker, mountain bluebird) and herbaceous ground cover (e.g., western meadowlark, vesper and lark sparrow).

Impact of Proposed Action: The pertinent values influenced by emergency rehabilitation of this rangeland as big game winter range and non-game habitats involve the maintenance of

long term site productivity rather than accelerating or favoring the redevelopment of any particular herbaceous or woody cover and forage properties through supplemental seeding. Supplemental seeding that complements the abundance and form of native herbaceous ground cover would help ensure that sites more susceptible to the proliferation of cheatgrass and other annual weeds would be less prone to long term site domination by these annuals. Strong post-fire response of herbaceous ground cover (as well as planned check dams) would reduce off-site transport of soil and the potential for gully formation and consequently help maintain the productivity of these valleys and uplands in providing forage and cover resources for resident wildlife in the future. Seeding activities and check dam construction would occur in the fall and early winter of 2004 and would have no potential to disrupt seasonal use functions of resident wildlife (e.g., wintering big game, breeding birds and mammals).

Impact of No Action Alternative: Proliferation of annual weeds across the burn would add incrementally to progressive and long-term deterioration of these woodland and shrubland habitats. Off-site transport of soil and gully formation on severely burned acreage would suppress site productivity and the capacity of these sites to provide forage and cover for resident wildlife in the long term.

Mitigation: None. [Note: Seed mix decisions were an interdisciplinary effort among WRFO staff.]

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The area involved in this wildfire previously met the standards for terrestrial animal communities and the proposed action is consistent with continued achievement of the standard (i.e., recognizing the natural role of fire in ecological function). As described in the no-action alternative, there is some risk in failing to meet the standard in the long term by failing to apply remedial rehabilitation measures.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation	X		
Cadastral Survey	X		
Fire Management			X
Forest Management	X		
Geology and Minerals	X		
Hydrology/Water Rights		X	
Law Enforcement		X	
Paleontology	X		
Rangeland Management			X
Realty Authorizations	X		
Recreation		X	

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Socio-Economics		X	
Visual Resources		X	
Wild Horses	X		

FIRE MANAGEMENT

Affected Environment: The fire was managed as Wildland Fire Use for resource benefit in accordance with the White River Fire Management Plan and White River Resource Land Use Plan. The fire burned a portion of the resource area's heaviest Ips Beetle infestation and consumed heavy dead and downed pinion-juniper fuel loading estimated at approximately 10 tons/acre. The fire also converted numerous PJ encroached sagebrush parks back to open meadows. The sagebrush parks that were burned will be enhanced due to the level of PJ encroachment prior to the fire, the fire provided a net benefit to these parks by removing the encroached PJ. On a landscape level fire was reintroduced to an area where at least one fire return interval was missed and converted 7,800 acres from a fire regime and condition class III to condition class I and achieved a more mosaic mix of seral age classes within the occurring vegetation strata present within and around the fire on a landscape level.

Environmental Consequences of the Proposed Action: The Greasewood burn area experienced extreme fire behavior with relatively low fuel and soil moisture which caused approximately 70-90 percent mortality on the perennial grasses and forbs. Due to the presence of cheatgrass within and adjacent to the burn area the proposed action will help to preempt cheatgrass dominance of the uplands and drainage bottoms of the burn.

Environmental Consequences of the No Action Alternative: Failure to aggressively re-vegetate the Greasewood burn area as proposed could lead to cheatgrass dominance of the uplands and drainage bottoms of the burn, predisposition to more frequent, uncharacteristic fire return intervals in the future and resultant environmental degradation.

Mitigation: None

RANGELAND MANAGEMENT

Affected Environment: The Greasewood fire burned on two allotments, North Dry Fork (06005) and Little Hills (06006). The North Dry fork allotment is used by the Shults and Lopez cattle operations in the spring from May 1 through June 15 on a yearly basis. Livestock distribution and use is controlled by access to water. The burned area on the Little Hills allotment is used as spring /fall range by Burke Brothers cattle operation. They typically graze primarily yearling cattle on the allotment.

Environmental Consequences of the Proposed Action: Revegetation as proposed will enhance long term rangeland management opportunities on both allotments by providing stable, productive plant communities over the long term.

Environmental Consequences of the No Action Alternative: To not act aggressively to revegetate the burn area, we would miss a prime opportunity to permanently improve vegetation structure and composition and create a desirable plant community which is both productive and resilient.

Mitigation: On the North Dry Fork allotment, the grazing permittees, Mike Lopez and Lonnie and Todd Shults have agreed to keep cattle off the burn area for two full growing seasons to allow for revegetation with desirable species to occur. This will be accomplished by closing the Reagan watergap which allows cattle access to the Dry Fork of Piceance Creek from the north side. They have also initiated two projects to enhance water availability from Piceance Creek on the west end of the allotment. This will draw cattle away from the burned area to the west end of the allotment. On that portion of the burn on the Little Hills allotment, very little of the burned area is accessible to cattle due to a lack of water. The exception is in Greasewood, where in order to keep cattle off the seeded area, 1/8 mile of fence will be constructed to prevent cattle from accessing the area.

CUMULATIVE IMPACTS SUMMARY: Within the no action alternative, establishment of cheatgrass and noxious weeds was identified as potential long-term impacts. Without treatment, this burn site would lack the desired vegetation competition to preempt site dominance by the alien invasive species cheatgrass and noxious weeds. Establishment of cheatgrass and noxious weeds on this site would initiate a largely irreversible cycle of environmental degradation that would be difficult to rectify over the long term.

PERSONS / AGENCIES CONSULTED:

Colorado Division of Wildlife
Habitat Partnership Program (HPP) White River Chapter
Lonnie and Todd Shults
Mike Lopez

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Ken Holsinger	NRS	Air Quality
Ken Holsinger	NRS	Areas of Critical Environmental Concern
Ken Holsinger	NRS	Threatened and Endangered Plant Species
Gabrielle Elliott	Archaeologist	Cultural Resources Paleontological Resources

Name	Title	Area of Responsibility
Ken Holsinger	NRS	Invasive, Non-Native Species
Ed Hollowed	Wildlife Biologist	Migratory Birds
Ed Hollowed	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Ken Holsinger	NRS	Wastes, Hazardous or Solid
Caroline Hollowed	Hydrologist	Water Quality, Surface and Ground Hydrology and Water Rights
Ken Holsinger	NRS	Wetlands and Riparian Zones
Chris Ham	ORP	Wilderness
Ken Holsinger	NRS	Soils
Ken Holsinger	NRS	Vegetation
Ed Hollowed	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	ORP	Access and Transportation
Ken Holsinger	NRS	Fire Management
Ken Holsinger	NRS	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Mark Hafkenschiel	Rangeland Management Specialist	Rangeland Management, Soils, Vegetation, Invasive, Non-Native Species
Penny Brown	Realty Specialist	Realty Authorizations
Chris Ham	ORP	Recreation
Chris Ham	ORP	Visual Resources
Ken Holsinger	NRS	Wild Horses

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2004-165-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

DECISION/RATIONALE: It is my decision to implement the Greasewood Short-term Impact Mitigation Plan because it will result in long term stability and productivity in the burned area, prevent the invasion and proliferation of alien species, and insure maintenance of the Standards for Rangeland Health in the short and long term.

MITIGATION MEASURES:

1. At least two permanent Daubenmire canopy coverage transects will be established to monitor post burn vegetation response.
2. On the North Dry Fork allotment, the grazing permittees, Mike Lopez and Lonnie and Todd Shults have agreed to keep cattle off the burn area for two full growing seasons to allow for revegetation with desirable species to occur. This will be accomplished by closing the Reigan watgap which allows cattle access to the Dry Fork of Piceance Creek from the north side. They have also initiated two projects to enhance water availability from Piceance Creek on the west end of the allotment. This will draw cattle away from the burned area to the west end of the allotment. On that portion of the burn on the Little Hills allotment, very little of the burned area is accessible to cattle due to a lack of water. The exception is in Greasewood, where in order to keep cattle off the seeded area, 1/8 mile of fence will be constructed to prevent cattle from accessing the area.

COMPLIANCE/MONITORING: One 3x3 and Daubenmire plot would be placed in Reigan Gulch, Little Reigan Gulch and Thompson Gulch. In conjunction, an established Daubenmire plot was burned over, but will not be seeded, will be read to provide an assessment of re-vegetation process. The plots will provide photos, cover, composition, and frequency information. These plots will be monitored for first and third years and then every five years after that. After the third monitoring cycle an analysis of the monitoring trend would be conducted. Monitoring will be the responsibility of the fuels specialist and range management specialist responsible for the allotments in which the fire burned.

NAME OF PREPARER: Ken Holsinger

NAME OF ENVIRONMENTAL COORDINATOR: *Caroline P. Hollowed* 7/30/04

SIGNATURE OF AUTHORIZED OFFICIAL: *Kent E. Walter*
Field Manager

DATE SIGNED: 7/30/04

ATTACHMENTS:

Fire Impact Mitigation Plan Map

